

## ABSTRACT

In a motor driving device where a motor having a winding wire with small inductance value is driven by a digital control means comprised of control means including a current command value calculating means, a current control means and a PWM control means whose sampling periods are different from each other, when discrete signals sampled by the respective control means are zero-order-held, a motor current includes a lot of higher harmonic waves due to a quantization error, thereby increasing a motor noise.

When an  $n$ -th-order hold means is provided between the respective control means with different sampling periods, the quantization error can be reduced remarkably, and thus the higher harmonic wave components included in the motor current are reduced, thereby greatly reducing the motor noise.